

**WITHDRAWAL OF THE  
RED RIVER (RIO GRANDE TO PLACER CREEK)  
DISSOLVED ALUMINUM TMDL**



**NEW MEXICO ENVIRONMENT DEPARTMENT  
SURFACE WATER QUALITY BUREAU**

**US EPA-APPROVED  
JANUARY 16, 2013**

## **Summary**

Due to the change from a dissolved aluminum to a hardness-based total aluminum water quality criterion and the recent assessments of water quality data for the Red River (Rio Grande to Placer Creek) assessment unit (AU), the New Mexico Environment Department Surface Water Quality Bureau (SWQB) requests to withdraw the 2006 Red River (Rio Grande to Placer Creek) dissolved aluminum TMDL from the New Mexico Water Quality Management Plan (WQMP).

### **I. Background**

Based on water quality data collected in 1999 at stations in the Red River (Rio Grande to Placer Creek), the AU was listed on the 2000-2002 List of Impaired Waters as impaired for aquatic life use due to dissolved aluminum. Additional data collected in 2002 and 2003 confirmed this listing and the impairment remained on the 2002, 2004, 2006, 2008, and 2010 Lists of Impaired Waters. A dissolved aluminum TMDL for Red River (Rio Grande to Placer Creek) (AU ID- NM\_2119\_10) was developed in 2005 and approved by the New Mexico Water Quality Control Commission (NM WQCC) on January 10, 2006 and USEPA on March 17, 2006.

During the 2009-2010 triennial review, SWQB proposed to replace the dissolved aluminum water quality criterion (WQC) for aquatic life with hardness-based total recoverable aluminum WQC. The WQCC approved this hardness-based total recoverable aluminum WQC on October 14, 2010, and USEPA approved these WQC on June 18, 2012, for surface waters with pH > 6.5.

The Red River (Rio Grande to Placer Creek) was sampled by SWQB in 2009 as part of the Upper Rio Grande water quality survey. Based on the assessment using the 2011 Assessment Protocols and the WQCC- and EPA-approved hardness-based total recoverable aluminum chronic criterion, the Red River (Rio Grande to Placer Creek) was delisted for aluminum on the 2012-2014 §303(d)/§305(b) Integrated List. The 2012-2014 §303(d)/§305(b) Integrated List was approved by USEPA on May 8, 2012.

### **II. Requirements and Guidance for TMDL Withdrawal**

Both USEPA guidance and the New Mexico WQMP provide for the withdrawal of TMDLs. The March 22, 2012 USEPA guidance titled “Consideration for Revising and Withdrawing TMDLs” states the following-

*“EPA recommends that existing TMDLs not be withdrawn simply because the load and wasteload allocations have been implemented successfully and the water is now attaining water quality standards. EPA recommends that such “successful” TMDLs remain in place to ensure that WQS continue to be maintained in the future, and that their water quality analyses and allocation*

*targets continue to inform permit writers' and stakeholders' efforts to maintain those water quality standards. In some circumstances, however, a State may want to withdraw a TMDL to reduce any confusion for permit writers or stakeholders, but it is at the State's discretion. At least three scenarios could prompt a desire for TMDL withdrawal:*

...

*3. EPA approves a State's revised water quality criteria or water quality standard leading to a determination that the water body is no longer impaired. Under the circumstances implementation of the WLA in the TMDL based on the old criteria may lead to permit effluent limits more stringent than necessary under the new criteria. When withdrawing such TMDLs, States should notify EPA and provide public notice of the withdrawal. One option would be for the withdrawal to occur at the same time the State establishes its next 303(d) list. However, if the water body remains impaired under the new water quality standard, the TMDL should remain in place. The State may withdraw the TMDL if it chooses to develop a TMDL revision and EPA approves the revised TMDL; however, it is not necessary to withdraw the TMDL.*

Section IV-C of the 2011 New Mexico WQMP states the following:

*"TMDLs may be revised as necessary...based on changes to water quality standards or other factors influencing the TMDL calculation or distribution between the WLA and LA in the TMDL. TMDLs may be removed from the WQMP with WQCC approval if the waterbody is no longer impaired."*

The situation for the Red River (Rio Grande to Placer Creek) is consistent with the scenario for withdrawal outlined in the USEPA guidance described above as well as the provision for withdrawal provided in the New Mexico WQMP.

### **III. Public Participation**

Table XIV-1 in the New Mexico WQMP requires a 30-day public comment period and a public meeting in the affected watershed for all TMDL processes. The 30-day public comment period opened on October 19 and closed on November 19, 2012. A public meeting was held on November 7, 2012 from 6-8 p.m. at the Red River Conference Center at 101 West River Street and was attended by seven stakeholders. SWQB presented the (Rio Grande to Placer Creek) TMDL withdrawal proposal to the WQCC on December 11, 2012. Subsequently, the WQCC-Approved proposal was forwarded to US EPA Region 6 Offices in Dallas, Texas for final review. US EPA approved the proposal on January 16, 2013.

#### **IV. Conclusions**

Based on assessment of 2009 water quality data, the Red River (Rio Grande to Placer Creek) is not impaired for aquatic life use due to total recoverable aluminum. There is no dissolved aluminum WQC for aquatic life applicable to this AU. Therefore, aluminum was removed as a cause of non-support for aquatic life from the WQCC and EPA-approved 2012-2014 §303(d)/§305(b) Integrated List. As the 2006 TMDL was developed using a WQC that no longer exists and the AU is not impaired for the currently applicable total recoverable aluminum WQC, SWQB intends to propose that the WQCC withdraw the 2006 Red River (Rio Grande to Placer Creek) dissolved aluminum TMDL.

#### **References:**

- New Mexico Administrative Code (NMAC). 2012. State of New Mexico Standards for Interstate and Intrastate Surface Waters. New Mexico Water Quality Control Commission. As amended through July 10, 2012. (20.6.4 NMAC)
- New Mexico Environment Department/Surface Water Quality Bureau (NMED/SWQB). 2011. Statewide Water Quality Management Plan and Continuing Planning Process (WQMP/CPP). <http://www.nmenv.state.nm.us/swqb/Planning/WQMP-CPP/>
- . 2012. 2012-2014 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated List. May. Available at: <http://www.nmenv.state.nm.us/swqb/303d-305b/2012-2014/>.
- United States Environmental Protection Agency (USEPA). 2012. Consideration for Revising and Withdrawing TMDLs. Available at: [http://water.epa.gov/lawsregs/lawguidance/cwa/tmdl/upload/Draft-TMDL\\_32212.pdf](http://water.epa.gov/lawsregs/lawguidance/cwa/tmdl/upload/Draft-TMDL_32212.pdf).

**APPENDIX A**  
**PUBLIC COMMENTS**

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SWQB hosted a public meeting in Red River, NM on November 7, 2012 to discuss the Public Comment Draft Red River TMDL Withdrawal Proposal. Notes from the public meeting are available in the SWQB Administrative Record.

Written comments received during the 30-day public comment period:

- A. Eric Patterson, Water Sentinels Rios de Taos
- B. Derek Heafey, Environmental Manager, Questa Mine
- C. Marcus J. Rael, Jr. of Robles, Rael, and Anaya, representing Village of Questa

Written comments received outside of the 30-day public comment period

- D. Rachel Conn, Amigos Bravos

## **Comment Set A**



## Henderson, Heidi, NMENV

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**From:** Eric Patterson <eepatt@gmail.com>  
**Sent:** Sunday, November 18, 2012 10:41 PM  
**To:** Henderson, Heidi, NMENV  
**Subject:** Comment on proposed Red River aluminum TMDL change

Ms. Henderson,

Please send my comments to the SWQB and/or the WQCC, whichever is appropriate.

My name is Eric E. Patterson. I have a bachelor's degree in chemistry and have worked in industry as an organic chemist, in a University teaching hospital in the STAT biochemistry lab, and have taught chemistry for over 25 years in both high school and college.

I coordinate a group of Sierra Club volunteers called "Water Sentinels Rios de Taos." This volunteer group has been monitoring water quality in three rivers (Rio Hondo, Rio Pueblo de Taos, and Rio Fernando de Taos) in Taos County for the last five years. It is not financially feasible for the State of New Mexico to monitor the water quality of every stream every year, so three times a year, the Sentinels group has been doing streamside analysis for temperature, pH, dissolved oxygen, and electrical conductivity. We also send samples to an EPA-approved laboratory for e. coli and other parameters. This past year, we decided to monitor the Red River because we have been anticipating a "superfund clean-up" and wanted to see how water quality might change during the course of this clean-up. We have found aluminum in the Red River at the four sites we have been sampling, as much as 1614 micrograms per liter (total Aluminum). Aluminum has been found to be toxic to fish. The aluminum levels we have found certainly exceed that which is allowable by the former New Mexico standards. However, it has been found that the hardness present in water can impart a lessening of the aluminum toxicity to some fish. At the urging of a group called CMA, (hired by Chevron) New Mexico has changed the standards for allowable aluminum in the Red River. The new standards are a little complicated and are not easy to understand. They require a "recoverable aluminum" analysis, EPA method 200.7. My EPA certified lab uses EPA method 200.6 and 200.8. The new standard factors in hardness and pH and uses an exponential equation to calculate toxic values. Aluminum chemistry is complicated. At low pH, it is present as the soluble  $Al^{3+}$  ion. As the pH rises, we see it as the aluminum monohydroxide  $2^{+}$  ion, the aluminum dihydroxide  $1^{+}$  ion, aluminum (tri) hydroxide solid, and aluminum (tetra) hydroxide  $-1$  ion.

It looks like the old standards for aluminum in the Red River were not being met, so, at the request of a company (CMA) hired by Chevron, New Mexico has just changed the standards. They are more complex and difficult to understand. CMA did not lift a test tube to do research, they just surveyed the literature and found some studies that determined hardness lessens the acute effects of aluminum on some fish (NOT trout!). The U.S. EPA said that is only true at pH greater than 6.5 and lower than pH 9. CMA apparently did not look at the study by Gunderson et al, in the Journal of Canadian Fisheries, which did use rainbow trout and found that at pH 8 and above, aluminum retards the growth of juvenile rainbow trout. Higher hardness levels lowers the acute aluminum toxicity, but still retards the growth. Gunderson did not do long term studies to determine the chronic toxicity. We have measured the pH at different locations and at different times, obtaining values from pH 7.0 to pH 7.89. Streams in northern New Mexico often have pH values of 8 and above.

The problems of the Red River are many and complicated. There is definitely a stretch of the Red River where trout can not live and most of the "good" benthic organisms are gone. Why? We do not really know for sure, but is it for the public good to end the plan to improve the quality of the river by changing the standards?

A local fisherman contacted me last week and asked "What's going on with the Red River? Can't we just find out what the acceptable aluminum levels are?" When I told him that the acceptable levels change with hardness and pH, he said:

"Well I'm more confused than ever. Even if the standard were a reasonable one, does the new standard make it more difficult (or expensive) for us amateurs to test for compliance? "

It appears to me that the one company which has the most responsibility for the water quality of the Red River has convinced the NMED, BSWQ, and the WQCC to change the standards based on incomplete scientific data AND has indeed made it difficult for the public to monitor compliance. Sentinels has been monitoring pH and hardness levels in the Red River, and we hope to use the EPA method 200.7 next year. I think we should keep the present TMDL until we know a little more about what's really going on.

Respectfully submitted,

Eric E. Patterson  
Coordinator  
Water Sentinels Rios de Taos  
Box 334, Valdez, NM 87580  
November 18, 2012

**NMED Response:** *Thank you for your comments.*

*At the present time, including aluminum, NMED currently has hardness-based standards for nine metals (cadmium, chromium, copper, lead, manganese, nickel, silver and zinc).*

*GEI Consultants, Inc., a contractor for Chevron Mining, Inc. and Los Alamos National Laboratory, prepared a document “Ambient Water Quality Criteria for Aluminum – Review and Update” (GEI Consultants, Inc. 2009) that proposed new hardness-based water quality criteria for aluminum. The proposed new criteria were based on methods from EPA’s national guidelines document, “Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses” available at <http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/upload/85guidelines.pdf>.*

*During the hearings conducted for the 2008-2009 Triennial Review of Water Quality Standards, Los Alamos National Laboratory proposed updated aquatic life criteria for aluminum. The equations were the basis for the hardness-based aluminum criteria subsequently adopted by the WQCC and for waters with pH 6.5 or greater, also approved by EPA. The proposal, which was evaluated by NMED, incorporated the review of more than 120 peer reviewed articles, including acute aluminum toxicity data for 22 species representing 19 genera (11 invertebrate and 8 fish genera). Studies for rainbow trout (Call 1984, Gunderson et al. 1994), brook trout, Chinook salmon and Atlantic salmon, Rio Grande silvery minnow, channel catfish, yellow perch, and fathead minnow were also included, as well as the data from Gunderson et al (1994).*

*To clarify, the pH values for studies considered in the proposal ranged from 6.5 to 8.29. Studies by Gunderson et al. (1994) were conducted with pH values of 8.25 and 8.29. Numerous studies, including the studies evaluated for the proposal, have shown that for aquatic life, toxicity decreases as hardness increases. In fact, many EPA-recommended criteria, including some metals, are based on complex relationships between toxicity and constituents in water chemistry.*

*For aluminum, EPA recommends that the chronic hardness-depended equation apply only to waters where the pH is 6.5 or greater, and that the 87 µg/L criterion is applicable to waters with pH of less than 6.5.*

*As was stated in the comments, aluminum chemistry is complicated. Depending on the specific water chemistry, there is not always a clear distinction between dissolved and mineral phases (the particulates) of aluminum. For this reason, the current acute and chronic aquatic life criteria for aluminum are based on a total recoverable aluminum sample filtered to remove mineral phases. That is, the sample should not be a dissolved-phase sample. This specification is stated in NMAC 20.6.4.900, J (1)(e). Samples for aluminum (unfiltered) can be collected and analyzed by total recoverable analytical procedures (acid digestion and reflux) described in methods such as EPA Method 200.7 (ICP-AES) or EPA Method 200.8 (ICP-MS), or comparable methods, provided the mineral phase in the water is low, generally turbidity less than 30 NTU. The method itself is not a requirement in the water quality standards.*

*The commenter asserts that the change to hardness-based aluminum criteria for pH greater than 6.5 and based on the analysis of a total recoverable sample filtered to remove mineral phase is*

*based on incomplete scientific data. As stated above and argued during the triennial review, the revised hardness-based, total recoverable aluminum criteria are scientifically based and well supported by the literature. NMED believes that the dissolved aluminum TMDL for the Red River should be removed because it is based on a criterion that is no longer applicable and data collected during the 2009 water quality survey show no impairment of the current hardness-based aluminum criteria. NMED also believes that it is no more difficult to monitor aluminum based on hardness-based criteria than it is to monitor other metals that have hardness-based criteria.*

Call, D.J. 1984. Memorandum to C. Stephan, U.S. Environmental Protection Agency, Duluth, MN, dated November 27, 1984. University of Wisconsin-Superior, Wisconsin.

Gundersen, D.T., S. Bustaman, W.K. Seim, and L.R. Curtis. 1994. pH, hardness, and humic acid influence aluminum toxicity to rainbow trout (*Oncorhynchus mykiss*) in weakly alkaline waters. *Canadian Journal of Fisheries and Aquatic Sciences* 51(6):1345-1355.

## **Comment Set B**



**Questa Mine**  
Chevron Mining Inc  
PO Box 469  
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Tel (505) 586-7626  
Fax (505) 586-0811

November 15, 2012



Heidi Henderson  
New Mexico Environment Department  
Surface Water Quality Bureau  
P.O. Box 5469  
Santa Fe, NM 87502-5469

Re: Proposed withdrawal of the total maximum daily load (TMDL) for Red River (Rio Grande to Placer Creek)

Dear Ms. Henderson,

Chevron Mining Inc. (CMI) submits this comment letter in support of the New Mexico Environment Department, Surface Water Quality Bureau's (SWQB) proposed withdrawal of the aluminum TMDL for the Red River. CMI strongly supports the proposal to remove the now outdated TMDL, which is based on an old standard, and is no longer relevant or pertinent.

Based on the 2011 Assessment Protocols and the WQCC- and U.S. EPA- approved hardness-based total recoverable aluminum chronic criterion, the Red River (Rio Grande to Placer Creek), was delisted for aluminum and removed from the 2012-2014 303(d)/305(b) Integrated List by the WQCC. The 2012-2014 303(d)/305(b) Integrated List was subsequently approved by the U.S. EPA on May 8, 2012. As a result, it is no longer appropriate to maintain a TMDL for aluminum on this segment of the Red River.

Thank you for providing us an opportunity to present our comments.

Sincerely,

Derek Heafey  
Environmental Manager

**NMED Response:** *Thank you for your comments and your attendance at the November 7, 2012 public meeting in Red River.*

### **Comment Set C**



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November 16, 2012

Heidi Henderson  
NMED SWQB  
P.O. Box 5469  
Santa Fe, NM 87502  
[heidi.henderson@state.nm.us](mailto:heidi.henderson@state.nm.us)

VIA U.S. MAIL & E-MAIL

**RE: Proposal by NMED/SWQB to withdraw the Dissolved Aluminum TMDL for the Red River from the Rio Grande to Placer Creek**

Dear Ms. Henderson:

The purpose of this correspondence is to inform you that this firm represents the Village of Questa ("Village"). The Village has reviewed the proposed document entitled:

NEW MEXICO ENVIRONMENT DEPARTMENT, SURFACE WATER QUALITY BUREAU  
PROPOSES WITHDRAWAL OF THE TOTAL MAXIMUM DAILY LOAD (TMDL) FOR  
RED  
RIVER (RIO GRANDE TO PLACER CREEK)

The following summarizes the Village's understanding of background information relevant to this proposal:

- 1) SWQB is proposing to remove the TMDL for dissolved aluminum on the subject reach of the Red River, because the water quality criterion for dissolved aluminum has been replaced by a new standard. The Water Quality Control Commission (WQCC) approved the change from a dissolved aluminum criterion to a hardness-based total recoverable aluminum criterion following the 2009-2010 triennial review of the New Mexico Surface Water Quality Standards. This change in the aluminum surface water quality criterion (WQC) was promoted during the triennial review by the Los Alamos National Laboratory (LANL) and Chevron Mining, Inc. (CMI). LANL and CMI recommended the aluminum criterion be changed based on technical information and data that these organizations provided to the SWQB; notably, recent (2006) studies done for the Arid West Water Quality Research Project AWQC Recalculation Project. The new aluminum WQC has

been approved by both the New Mexico WQCC and the EPA and is now currently in effect.

- 2) Prior to 2010, the reach of the Red River extending from Placer Creek to the Rio Grande was considered by the SWQB to be "impaired" because the former dissolved Al WQC (acute) was not being met. Measurements were conducted in 2009 using the new "hardness-based total recoverable Al" criterion. Based on the 2009 monitoring using the new WQC is being achieved. Because the new standard is being achieved based on the 2009 measurements, the SWQB is proposing withdrawing the TMDL for aluminum.
- 3) Based on the TMDL, mass limits for aluminum under CMI's current NPDES (NM0022306) were proposed to be unchanged, according the most recent "fact sheet". NPDES NM0022306 identifies four permitted discharge points (Outfalls 001, 002, 003, and 004), but only one (002) operates continuously. Outfall 002 is located at the tailing impoundment below Dam No. 1. The other permitted discharge points have not had any discharge for many years. The expired permit also has provisions for maintaining and monitoring best management practices (BMPs) for intercepting springs, seeps and shallow groundwater in specific areas along the mine boundary with the Red River.

The Village of Questa has the following comments, questions and concerns regarding the proposed withdrawal of the Aluminum TMDL for the Placer Creek to Rio Grande Reach of the Red River:

- 1) **Will withdrawal of the TMDL affect the forthcoming NPDES (NM0022306) permit requirements?** The Village is unclear about whether, or if, withdrawal of the TMDL will affect CMI's renewed NPDES requirements. The current expired NPDES requires BMPs (shallow French drains and withdrawal wells) be maintained along specific portions of the mine boundary with the Red River. The expired permit also sets water quality-based limits on discharges of Al (and other contaminants) from Outfall 002 below Dam No. 1 at the tailing impoundment. It is our understanding that there is no specific "waste load allocation" assigned to the springs, seeps and groundwater upwelling that occurs along the mine boundary, which are mitigated to some un-quantified degree by the BMPs. The BMPs thus appear to be the only regulatory mechanism currently in place for mitigating the mine site's contribution of Al (and other contaminants) to the Red River along the mine boundary. The May 2006 fact sheet for the (expired) Questa mine NPDES permit (NM22306) states: "...Based on that [dissolved aluminum] TMDL, the mass limits for aluminum are proposed to remain unchanged." This implies that the TMDL was being used as a regulatory mechanism to maintain limits on the quantities of aluminum allowed to be discharged under the NPDES permit, and for maintaining BMPs at the mine site. If the TMDL is withdrawn, is there a risk that the water-quality based limits for aluminum will be removed from future renewed NPDES permits, or that BMP enforcement under the NPDES will be relaxed? The Village is not aware of the Al requirements being "burdensome" under the NPDES for the 002 outfall, although we do understand that manganese load limits under the NPDES have been historically



problematic for the mine to achieve. (Historically, a portion of the groundwater collected up-gradient from the 002 outfall is pumped back up to the tailing impoundment to reduce the manganese load and comply with the NPDES permit.) Please explain what implications there are, if any, for withdrawal of the TMDL on the forthcoming requirements for NPDES NM0022306.

- 2) **Why not revise rather than withdraw the TMDL?** Instead of withdrawing the TMDL, why not simply revise the TMDL in terms of the new hardness-based total recoverable aluminum criterion using a similar methodology as was used to establish the current TMDL? As stated in Section II of the Proposal under the heading "Requirements and Guidance for TMDL Removal", the EPA does not recommend withdrawing a TMDL simply because management practices for controlling contaminant loading are working. The Village would support further efforts to establish specific "threshold" values for the current Al WQC based on pH, hardness, flow, temperature, and other parameters, as appropriate, at which fish and other aquatic species native to the Red River are impacted. Continued monitoring of aluminum should be done on a quarterly basis, at minimum, if the TMDL is withdrawn, to support these efforts.
- 3) **Is the new Al WQC adequately protective?** The technical basis for changing the water quality criterion in 2010 was not explained in the proposal. We understand that the change was made at the urging of LANL and CMI, and was based in part on technical information and data presented by those organizations during the triennial review. The Village was not directly involved in the triennial review discussions. At the public meeting on the proposed withdrawal, held in Red River on November 7, 2012, one participant expressed concern that the new standard may not be appropriate with regard to Al toxicity to fish because the total Al value must be broken down into its components, dissolved and solid, and each component checked independently against threshold values for toxicity to aquatic life. The total Al (sum) value could be within acceptable limits based on the total recoverable criterion, while one component (dissolved or solid) remains chronically high. This may not be detected by the total recoverable values measured under the new criterion. Was this issue adequately addressed in the decision to revise the standard? If so, please explain in more detail how the new Al WQC is thought to be protective of the fish and other life forms in the river, to the same degree that the previous dissolved Al criterion was believed to be protective.
- 4) **Is the short period of monitoring (2009) with the new Al WQC adequate to determine that the Red River is not "impaired" with regard to Al?** The decision to withdraw the dissolved Al criterion appears to have been based on a single set of monitoring data collected in 2009. How representative are those data? Does the SWQB believe that limited 2009 "snapshot" is adequate to ensure that the river is not impaired based on the revised WQC? The previous TMDL study appeared to be based on a longer period of record for dissolved Al measurements. Are historic data available that would allow an evaluation of any correlation between the hardness-based total recoverable Al concentrations and the dissolved Al concentrations? If such data are available, a longer

Ms. Heidi Henderson, NMED SWQB

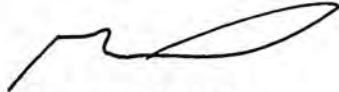
November 16, 2012

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period of record could be used to verify the agency's assessment of "no impairment" based on the new criterion, and this assessment should be done.

Thank you for your attention to this matter. Please let me know if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Marcus J. Rael, Jr.", with a stylized, elongated loop at the end.

Marcus J. Rael, Jr.

MJR/mtm

***NMED Response:*** Thank you for your comments. Your set of comments included four specific questions, which will be addressed in order below.

1. Will withdrawal of the TMDL affect the forthcoming NPDES (NM0022306) permit requirements?

*Yes, just as the development of a TMDL can impact permit limits, the withdrawal of a TMDL also has the potential impact NPDES permits. The NPDES permit (NM0022306) for Chevron Mining, Inc. near Questa is currently in the permit renewal process. EPA Region 6 in Dallas, TX is the permitting authority for the NPDES program in New Mexico. In developing NPDES permits in New Mexico EPA is required to implement the New Mexico Water Quality Management Plan (WQMP) and the existing dissolved aluminum TMDL is part of that WQMP. If the dissolved aluminum TMDL remains in the WQMP, EPA will be required to include the dissolved aluminum WLA in the new permit. Regardless of whether the TMDL is removed or not EPA is also required to conduct a reasonable potential analysis on a pollutant-by-pollutant basis during the permit renewal process in order to determine if the discharge has the potential to cause or contribute to an exceedence of state Water Quality Standards. Any pollutant that exhibits a reasonable potential will be included with an effluent limit in the permit. EPA approved the hardness-based aluminum criteria in 2012 and will use the new criteria in the reasonable potential analysis.*

2. Why not revise rather than withdraw the TMDL?

*The 2012 EPA guidance “Consideration for Revising and Withdrawing TMDLs” does not recommend removing a TMDL “simply because the...water is now attaining water quality standards” but does provide guidance for withdrawal of a TMDL when the applicable water quality criteria for the waterbody has changed since the development of the TMDL and the waterbody is meeting the new water quality criteria. NMED does not believe it is appropriate to keep a TMDL in the New Mexico Water Quality Management Plan that was developed using a water quality criterion that is no longer applicable to the waterbody. A revision to the TMDL is not necessary as the Red River is not impaired for the current, applicable hardness-based aluminum criteria.*

3. Is the new Al WQC adequately protective?

*As stated in the NMED response to Comment Set A, the WQCC and EPA found the new hardness-based aluminum criteria to be protective of aquatic life. Further details regarding the 2010 Triennial Review are available online at:*  
<http://www.nmenv.state.nm.us/OOTS/HearingOfficer/TR2009/>

4. Is the short period of monitoring (2009) with the new Al WQC adequate to determine that the Red River is not “impaired” with regard to Al?

*Given the limited resources available for monitoring, NMED is generally only able to include one monitoring location per assessment unit in each water quality survey. The*

*sampling in the Red River (Rio Grande to Placer Creek) assessment unit in 2009 was an exception. There were 8 monitoring locations within the assessment unit and a total of 32 metals samples were collected. Only 5 samples of these 32 exceeded the applicable hardness-based criteria and all 5 samples were from the same storm event. NMED will continue to monitor the Red River and is able to accept data from outside groups as long it meets QA/QC requirements.*

## **Comment Set D**



*Friends of the Wild Rivers*

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November 19, 2012

Heidi Henderson

NMED SWQB

P.O. Box 26110

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Heidi.henderson@state.nm.us.

Via Electronic Mail: Heidi.henderson@state.nm.us

RE: Aluminum TMDL for the Red River

Dear Ms. Henderson,

Amigos Bravos is a statewide river conservation organization guided by social justice principles. Our mission is to protect and restore the rivers of New Mexico, and ensure that those rivers provide a reliable source of clean water to the communities and farmers that depend on them, as well as a safe place to swim, fish, and go boating. Amigos Bravos works locally, statewide, and nationally to ensure that the waters of New Mexico are protected by the best policy and regulations possible. In this capacity Amigos Bravos works to make sure that New Mexico's water quality standards are protective enough to support the diverse human and non-human uses of our state's water resources. A TMDL is the first and often most critical step in cleaning up a waterbody as all other steps in the restoration process such as watershed planning and restoration projects pivot off the information provided in the TMDL. Therefore advocating for comprehensive and accurate TMDLs is a critical component of our work to protect clean water and the cultures that depend upon it here in New Mexico. Without a TMDL in place, work to restore the Red River is handicapped. While we are aware that since the Department and the Water Quality Control Commission have officially supported and approved the drastic reduction in water quality protections for the Red River, there are few options available to us for protesting the proposed withdrawal. Nonetheless, we still would like to take the time to express our concern and objection to delisting the Red River for Aluminum impairment and withdrawal of the TMDL.

The new hardness based aluminum standard is drastically less protective than the former standard as well as the aluminum standard adopted by neighboring states. The aluminum standard that applied prior to 2012 was 750 ug/L for the acute criteria for aquatic life and 87



ug/L for the chronic criteria for aquatic life. Sampling that we have conducted in collaboration with Water Sentinels in the Red River over the summer of 2012 has shown the hardness ranges from 120-180 mg/L. The new standard, under these hardness conditions, would be in the range of 5000 ug/L for the acute criteria for aquatic life and 2500 ug/L for the chronic criteria for aquatic life. This is a drastic reduction in water quality protections for the Red River. How does the Department justify this incredible downgrading of protections?

Have there been any on-the-ground observations of improvements in the aquatic health of the Red River? Is the Department claiming that the initial listing was not merited, so therefore there doesn't need to be any on the ground improvements in aquatic health? My understanding of the data is that the initial listing was based on levels lower than the 2500-5000 ug/L range cited above and therefore indeed the Department, in adopting this standard, is claiming that Red River never merited impairment status. For those who know the Red River and the impacts that decades of hard rock mining have had on this once thriving fishery know this is not the case.

This change in standards is made all the more worrisome in that the company (CMI) that stands the most to gain from a delisting of aluminum impairment is the very same company that proposed and then advocated for this weakening of the standard. This is the company that will now, most likely, have much less restrictive discharge permit limits. How thoroughly did the department review this proposal before throwing their weight behind the change? Was an expert employed by the Department to review the CMI standard?

Colorado has a similar standard to the old New Mexico standard (750 ug/L acute and 87 ug/L chronic), with one difference; Colorado does not apply the 87 ug/L in waters with hardness greater than 50 mg/L. The Red River, in all the samples we have collected, clearly has a hardness well above the 50 mg/L, but even so, 750 ug/L is a lot more protective than 2500 ug/L! In Colorado, the Red River would be impaired. How does crossing a state line make it ok to have 3 times higher the level of aluminum in the water? I wouldn't be surprised if all our fish started swimming north to Colorado!

Thank you for the opportunity to provide input in and comment on the proposal to withdraw the TMDL. We look forward to further discussion about the concerns that we have raised in our comments. Please do not hesitate to contact me at 575-758-3874 or [rconn@amigosbravos.org](mailto:rconn@amigosbravos.org) if further clarification or discussion on the above comments is merited or needed.

Sincerely,

Rachel Conn  
Projects Director  
Amigos Bravos

**NMED Response:** *Thank you for your comments, although NMED notes they were received after the submission deadline. As stated in the NMED response to Comment Set A, the WQCC and EPA found the new hardness-based aluminum criteria to be protective of aquatic life. Data collected during the 2009 water quality survey show no impairment of the new, applicable hardness-based aluminum criteria.*

*Additionally, the Colorado Department of Public Health and Environment Water Quality Control Commission approved new aluminum criteria in June 2012, amended the Standards in September 2012, and they will become effective for the State of Colorado in January 2013. Table III of the State of Colorado Water Quality Standards list a total recoverable hardness-based aluminum criteria similar to that adopted by the New Mexico Water Quality Control Commission.*